Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *3/28/2001*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____.

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/4/2003*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

The application, received on March 28, 2001, has been examined, and Claims 1-40 are pending. The objections and rejections are as stated below.

Claim Objections

Claim 13 is objected to on the grounds that the equation presented therein fails to particularly define each of the symbols used in the claim. As this really a matter of formality, an objection, rather than 112 rejection is presented, yet appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michaud et al, U.S. Patent #6003018, in view of Rickets et al, U.S. Patent Application Publication #20050137963.

With regard to Claims 1,21, Michaud teaches the method and program code comprising:

a) assigning a covariance matrix composed of a variance for each of said instruments and a correlation matrix to said universe; (Col. 5, line 37 – Col. 6, line 16)

b) removing one of said instruments from said universe; (Col. 3, lines 36-58)

c) calculating a residual variance for each of said instruments remaining in said universe; (Col. 1, line 65 – Col. 2, line 8)

d) calculating a residual variance for said universe based on said residual variance for each of said instruments and said correlation matrix; (Col. 1, line 65 – Col. 2, line 8)

e) reinstating said instrument into said universe; (Col. 5, lines 8-36)

f) repeating steps b-e for each instrument in the universe; (Col. 5, lines 8-36)

g) inserting into said index said one of said instruments for which said residual variance of said universe is minimized; (Col. 5, line 37 – Col. 6, line 16)

h) eliminating from said universe said one of said instruments for which said residual variance of said universe is minimized; and (Col. 5, line 37 – Col. 6, line 16)

i) repeating steps b-h until said index is formed. (Col. 5, line 37 – Col. 6, line 16)

Michaud statistical analysis is based on selecting instruments in order to achieve a portfolio reflective of an overall market. Although the principles are similar to those of the applicant, it is clear that Michaud fails to teach an index per se. However, the of selecting a representative index is old and well known, and is demonstrated by Rickets at (Page 1, Para. 7) which discusses using statistical analysis of stocks, individually and collectively, to form a subset index. As such, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to combine the teachings of Michaud, related to selection of a portfolio of instruments based on residual variance, with the teachings of Rickets, related to constructing a market index from statistical information. The motivation for such a combination is to give a macro-view of market movement to an individual to achieve micro-level investing. In this way, investors can make better informed decisions, leading to increased use in the system.

With regard to Claims 2,22, Michaud teaches the method and program code

comprising:

calculating a variance for each of said instruments in said universe; and assigning a
correlation value between a plurality of pairs of said instruments in said universe.
(Col. 1, lines 34-40)

With regard to Claims 3,23, Michaud teaches the method and program code

wherein:

some of said instruments in said universe are associated with an entity and wherein the
step of assigning a correlation value further comprises the step of: assigning a
correlation value between each of said some of said instruments associated with said
entity. (Col. 5, line 37 – Col. 6, line 16)

With regard to Claims 4,24, Michaud teaches the method and program code

wherein:

said correlation value between each of said some of said instruments associated with
said entity is identical. (Col. 5, line 37 – Col. 6, line 16)

With regard to Claims 5,25, Michaud does not expressly teach the method and

program code wherein:

Some of said instruments in said universe are within a sector in a country and wherein
the step of assigning a correlation value further comprises the step of:

assigning a correlation value between each of said some of said instruments within said
sector in said country.

However, Ricketts teaches these limitations at (Para. 80, Para. 123). It would

have been obvious to one of ordinary skill in the art at the time applicant's invention was

made to combine the teachings of Michaud, related to selection of a portfolio of

instruments based on residual variance, with the teachings of Rickets, related to

assigning a correlation value between each of said some of said instruments within said

sector in said country. The motivation for such a combination is to give a macro-view of

market movement to an individual to achieve micro-level investing. In this way, the

investors can make better informed decisions, leading to increased use in the system.

With regard to Claims 6,26, Michaud does not expressly teach the method and

program code wherein:

said correlation value between each of said some of said instruments within said sector
in said country is identical.

However, Ricketts teaches this limitation at (Para. 80, Para. 123).   The

references can be combined under the same motivation as with claims 5,25.

With regard to Claims 7-8, 27-28 Michaud does not expressly teach the method

and program code wherein:

some of said instruments in said universe are within a first sector and some of said
instruments in said universe are within a second sector and wherein the step of
assigning a correlation value further comprises the step of:

assigning a correlation value between each of said some of said instruments within said
first sector and each of said some of said instruments within said second sector; and

said correlation value between each of said some of said instruments within said first
sector and each of said some of said instruments within said second sector is identical.

However, Ricketts teaches these limitations at (Para. 80, Para. 123).   The

references can be combined under the same motivation as with claims 5,25.

With regard to Claims 9-12,29-32, Michaud does not expressly teach the

method and program code wherein instruments are associated with various companies,

sectors, and countries in any combination. However, as discussed above, Ricketts

teaches adjusting the index according to these very factors at (Para. 80, Para. 123).

Also as discussed above, the motivation to combine the references exists in that a

macro-view of market movement is available to an individual to achieve micro-level

investing.

With regard to Claims 13,33, Michaud does not expressly teach the method

and program code reflected in the equation presented in this claim. However it would be

an obvious modification to the statistical analysis presented in Michaud to further

calculate the residual variance as described in the equation. The motivation for

modifying Michaud is simply to achieve the most statistically complete indexing as

possible.

With regard to Claims 14,34, Michaud teaches the method and program code

wherein:

said index is formed when a predetermined number of instruments in the universe are
inserted into said index.   (Col. 5, line 37 – Col. 6, line 16)

With regard to Claims 15,35, Michaud teaches the method and program code

wherein:

said index is formed when a predetermined percentage of said instruments in the
universe are inserted into said index.   (Col. 5, line 37 – Col. 6, line 16)

With regard to Claims 16,36, Michaud teaches the method and program code

wherein:

said predetermined percentage is a percentage of said universe of N instruments on a
weighted basis. (Col. 5, line 37 – Col. 6, line 16)

With regard to Claims 17,37, the examiner is treating the dv01 value to simply

be a the expected correlation value, and as such Michaud teaches the method and

program code comprising:

calculating an original dv01 of said universe before the removing one of said instruments, wherein residual variance is minimized includes, and calculating a remaining dv01 of said universe wherein said index is formed when said remaining dv01 of said universe is a predetermined percentage of said original dv01 of said universe. (Col. 5, line 37 – Col. 6, line 16)

With regard to Claims 18-20 and 38-40, Michaud does not expressly teach the method and program code wherein said instruments are fixed income instruments, equities, or FX securities.

However, these instruments are old and well known in the finance arts, and as such the examiner takes official notice that an index would be comprised of these instruments. Further, it would have been obvious to one of ordinary skill in the art to modify Michaud to include specific instruments in the indexing. The motivation for such a modification is simply to include the major instruments in order to ensure investors that the indexing is thorough and complete.
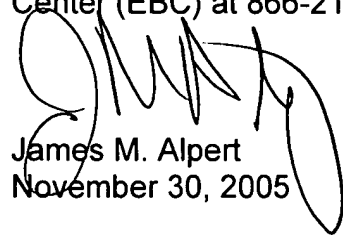
Conclusion

THIS ACTION IS NON-FINAL. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Alpert whose telephone number is (571) 272-6738. The examiner can normally be reached on M-F 9:30-6:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on (571) 272-6747. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR.   Status

information for unpublished applications is available through Private PAIR only.   For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197.

James M. Alpert
November 30, 2005